

CLAIM LISTING

1. (Previously presented) A method of synthesizing phenstatin comprising the steps of :

 oxidizing 3-(tert-butyl dimethylsilyl)oxy-4-methoxybenzaldehyde with potassium permanganate to form the corresponding carboxylic acid;

 converting said carboxylic acid to the corresponding acid chloride;

 treating said acid chloride with the lithium derivative obtained from 3,4,5-trimethoxybenzene and t-butyllithium to form a protected product; and

 deprotecting said protected product to form phenstatin.

2. (Previously presented) A method of synthesizing phenstatin prodrug comprising the steps of:

 phosphorylating phenstatin with dibenzylphosphite in the presence of bromodichloromethane to form a phosphate ester;

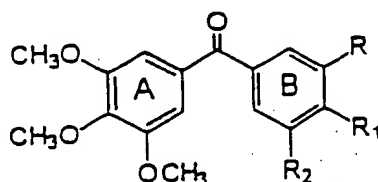
 cleaving the benzyl groups from said phosphate ester by means of catalytic hydrogenolysis; and

 reacting the cleaved phosphate ester with sodium methoxide to produce the phenstatin sodium phosphate prodrug.

3. (Previously presented) A method of inhibiting cancer cell growth and tubulin polymerization in an environment inflicted therewith comprising: introducing into said environment a pharmaceutically acceptable carrier and a small but effective amount of phenstatin prodrug.

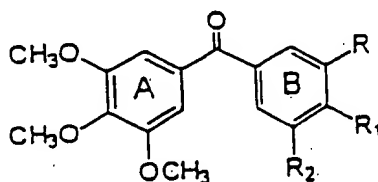
PRELIMINARY AMENDMENT IN RESPONSE TO OFFICE ACTION
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4. (Currently Amended) Phenstatin prodrugs and derivatives thereof having the structure:



wherein when $R=H$ and $R_1 = OCH_3$, R_2 is OPO_3Na or $OCOCH_3$ and when $R=R_2$, R_2 is OCH_3 , CH_3 , Cl or F and R_1 is H and when $R_1=R_2$, R_2 is OCH_3 and R is H .

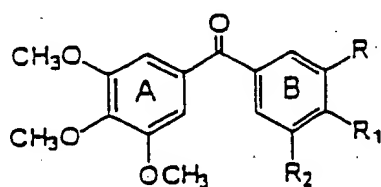
5. (Currently amended) A method of inhibiting human cancer cell growth in a host inflicted therewith comprising administering to said host in a pharmaceutically acceptable carrier a small but effective amount of a compound selected from the group consisting of phenstatin; phenstatin prodrug and the derivatives thereof having the structure



wherein when $R=H$ and $R_1=OCH_3$, R_2 is OPO_3Na_2 , $OCOCH_3$ or OCH_3 and when $R=R_2$, R_2 is OCH_3 , CH_3 , Cl or F and R_1 is H and when $R_1= R_2$, R_2 is OCH_3 or OCH_2O and R is H .

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6. (New) A method of inhibiting human cancer cell growth in a host inflicted therewith comprising administering to said host in a pharmaceutically acceptable carrier a small but effective amount of a compound selected from the group consisting of phenstatin, phenstatin prodrug and the derivatives thereof having the structure



wherein when R₁ = R₂, R₂ is OCH₂O and R is H.